

The opinion in support of the decision being entered today was *not* written for publication and is *not* binding precedent of the Board.

Paper No. 15

UNITED STATES PATENT AND TRADEMARK OFFICE

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BEFORE THE BOARD OF PATENT APPEALS  
AND INTERFERENCES

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*Ex parte* MICHAEL J. SIWINSKI, SCOTT C. ROBINSON  
ROBERT W. SPURR and TIMOTHY J. TREDWELL

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Appeal No. 2003-0256  
Application No. 09/334,375

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ON BRIEF

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Before BARRETT, OWENS, and RUGGIERO, *Administrative Patent Judges*.

*OWENS, Administrative Patent Judge.*

*DECISION ON APPEAL*

This appeal is from the final rejection of claims 1-3, 6, 8-21 and 26-54, which are all of the claims pending in the application.

*THE INVENTION*

The appellants claim an ink jet printer, an ink container for use in the printer, and a method of operating the printer. Claim 1, directed toward the printer, is illustrative:

1. A printer of the type which selectively deposits a color ink onto a receiver to form an image on the receiver, the printer being adapted to sense and update data uniquely associated with an ink containing consumable loaded into the printer, comprising:

(a) a transceiver for transmitting a first electromagnetic field and for sensing a second electromagnetic field, the first electromagnetic field containing data for writing into a memory associated with the ink containing consumable;

(b) a transponder coupled to said ink containing consumable, said transponder adapted to receive the first electromagnetic field and generate the second electromagnetic field in response to the first electromagnetic field received thereby, the transponder adapted to receive energy from the first electromagnetic field that is generated by the transceiver and the energy comprising the only energy for powering the transponder and the transponder being adapted to read data from the memory and write updated data to the memory in accordance with an instruction code from the transceiver in the first electromagnetic field; and

(c) the memory associated with the ink containing consumable, the memory being coupled to said transponder, said memory having data stored therein uniquely associated with the ink containing consumable, whereby the second electromagnetic field carries the data stored in said memory while the second electromagnetic field is generated, the second electromagnetic field being characteristic of the data stored in said memory.

#### *THE REFERENCES*

Mallory et al. (Mallory)	3,580,565	May 25, 1971
Cardullo et al. (Cardullo)	3,713,148	Jan. 23, 1973
Mochizuki et al. (Mochizuki)	5,266,975	Nov. 30, 1993
Purcell et al. (Purcell)	6,227,643	May 8, 2001

(filed Feb. 25, 1998)

#### *THE REJECTIONS*

The claims stand rejected under 35 U.S.C. § 103 as follows:  
claims 1-3, 8-10, 13, 16, 19-21, 26-28, 31, 34, 37-48, 52 and 53  
over Purcell in view of Cardullo, claims 6, 11, 12, 14, 15, 17,  
18, 29, 30, 32, 33, 35, 36 and 49-51 over Purcell in view of

Cardullo and Mochizuki, and claim 54 over Purcell in view of Mallory.<sup>1</sup>

*OPINION*

We reverse the aforementioned rejections. We need to address only the independent claims, i.e., claims 1, 6, 8, 19, 26, 43, 50, and 54.

*Claims 1, 19 and 43*

Claims 1, 19 and 43 require an ink containing consumable having a transponder coupled thereto (claim 1) or associated therewith (claims 19 and 43).

Purcell discloses an ink jet printer having replaceable ink cartridges, each of which has a memory element with ink information stored therein (col. 2, lines 34-35). The memory element can be 1) a multi-bit binary code formed by traces on a flex circuit attached to the ink jet cartridge, or 2) an integrated circuit which interfaces with printer electronics by a two wire connection (col. 2, lines 42-44 and 49-52). The multi-bit binary code flex circuit has contacts that mate with contacts on a print carriage (col. 5, line 64 - col. 6, line 5). The two-wire conductive connection between the integrated circuit and the

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<sup>1</sup> A rejection of claims 50 and 51 under 35 U.S.C. § 102(b) over U.S. 5,347,274 to Hassett is withdrawn in the examiner's answer (page 7).

printer electronics preferably is created automatically when the cartridge is installed in a drop-and-click type cartridge receptacle on the print carriage (col. 2, lines 54-58; col. 6, lines 33-43).

Purcell's ink jet printer has a roll of print media, the holder of which comprises a memory element having information stored therein (col. 2, lines 6-12). "Because the roll of media is in motion during the printing process, the memory element on the media roll holder advantageously comprises a writable RF identification tag embedded in an insert attached to an end of the roll holder. This eliminates any need to form electrical connections between an integrated circuit memory element and the printer electronics. An RF transceiver incorporated into the printer reads the information coded in the identification tag and writes information about media use to the RF identification tag" (col. 2, lines 10-19).

Cardullo discloses a transponder system comprising a base station having a transceiver that transmits an interrogation signal to a transponder which provides an information-containing answerback signal to the base station (col. 1, lines 13-25; col. 3, lines 9-17). The transponder receives its operating power from the interrogation signal (col. 3, line 64 - col. 4,

line 3). The transponder is coupled to a changeable memory and, in response to an interrogation signal code, data can be written into or read from the memory (col. 3, lines 32-36). The transponder can be miniaturized into, for example, the size of a credit card (col. 4, lines 22-25), and can be placed on many different objects (col. 2, lines 55-56). The exemplified use of the transponder system is for paying tolls at automotive vehicle toll booths (col. 3, lines 41-59).

The examiner argues that it would have been obvious to one of ordinary skill in the art replace Purcell's integrated circuit memory element with Cardullo's transponder and RF transceiver "to provide a highly economical and reliable interrogation system applicable under all environmental conditions which requires no internal power source, is physically small in size and can be placed on many different objects as taught by column 2, line 45 - column 3, line 2 of Cardullo et al. and as suggested by column 9, lines 41-50 of Purcell et al. regarding a similar transponder placed on a print roll" (answer, pages 4-5). The accuracy and reliability of the transponder system under all environmental conditions indicated by Cardullo (col. 2, lines 64-67) clearly is desirable in the exemplified use of the system for collecting highway tolls. The examiner, however, has not provided evidence

or reasoning which shows that accuracy and reliability under all environmental conditions would have been of significance to one of ordinary skill in the art when selecting an ink cartridge memory element for use in an ink jet printer. Also, the characteristic of Cardullo's transponder of receiving its operating power from the transceiver and, therefore, being passive and entirely self contained (col. 3, line 64 - col. 4, line 3), clearly is a desirable characteristic of a transponder mounted on an automotive vehicle in Cardullo's exemplified use of the transponder system. The examiner, however, has not established that Cardullo's disclosure of this characteristic would have led one of ordinary skill in the art to use Cardullo's transponder system to replace Purcell's integrated circuit memory on an ink cartridge used in an ink jet printer. Moreover, Purcell teaches that it is because the media roll is moving during the printing process that he uses the transponder system (col. 2, lines 10-16), and Cardullo also discloses the use of a transponder on moving objects (i.e., railroad cars, col. 1, lines 27-30, and automotive vehicles, col. 7, lines 5-7). In contrast, Purcell teaches that the preferred mounting for providing a conductive connection between the integrated circuit memory element and the printer electronics is a drop-and-click

type cartridge receptacle on a print carriage (col. 2, lines 54-58). The examiner has not provided evidence or reasoning which shows that, in view of these disclosures by Purcell and Cardullo of the transponder being placed only on moving objects, the broad teachings by Cardullo relied upon by the examiner that the transponder "is physically small in size such that the device is truly portable, can easily be hidden, if desired, and can be carried and placed in or upon many different objects" (col. 2, lines 53-56), and "is highly economical with respect to its production and maintenance costs, thereby enabling a wide spectrum of the general public to readily utilize the same and enabling the device's introduction into a number of different industries" (col. 2, lines 58-63), would have led one of ordinary skill in the art to use Cardullo's transponder system with Purcell's ink cartridges.

The examiner argues that column 9, lines 47-50 of Purcell discloses that using a transponder tag on the paper roll to store and read information is analogous to storing and reading information on an ink-containing consumable (answer, page 8). What that portion of Purcell discloses is that the use of information stored on an RF ID tag to determine the amount of print media used is analogous to the analysis of information

stored in the ink cartridge memory element to determine the amount of ink expelled from the cartridge. Contrary to the examiner's apparent argument, that disclosure by Purcell is not an indication that the transponder/transceiver and the ink cartridge memory element are interchangeable.

For the above reasons we conclude that the examiner has not carried the burden of establishing a *prima facie* case of obviousness of the inventions claimed in the appellants' claims 1, 19 and 43. Accordingly, we reverse the rejection of these claims and dependent claims 2, 3, 20, 21, 37-42, 44-48, 52 and 53.

*Claims 8 and 26*

Claims 8 and 26 require a first transponder including a first memory coupled to a first consumable used by the printer, and a second transponder including a second memory coupled to a second consumable used by the printer.

The examiner argues that "utilizing plural transponders is a natural consequence of the obviousness of utilizing a transponder memory element as taught by Cardullo et al. on either or both of the ink cartridge 77 and print cartridge 74 of Purcell et al. since Purcell et al. already provides one transponder on the print roll" (answer, pages 9 and 10). As discussed above



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regarding the rejection of claims 1, 19 and 43, however, the examiner has not established a *prima facie* case of obviousness of using a transponder on an ink cartridge. The examiner, therefore, has not set forth a *prima facie* case of obviousness of using, in addition to Purcell's transponder and memory on the media roll holder, a second transponder and memory coupled to a second consumable used by the printer as required by claims 8 and 26. Consequently, we reverse the rejection of these claims and dependent claims 9, 10, 13, 16, 27, 28, 31 and 34.

*Claims 6 and 50*

Claim 6 requires a transponder coupled to a cleaning fluid consumable, and claim 50 requires a transponder associated with a container for waste material.

Mochizuki discloses an ink jet printer having a memory circuit for storing data representing the quantity of waste ink sucked by a suction pump from a recording head into a waste ink tank (23) while the recording head is being cleaned by purging it with ink (abstract; col. 2, lines 28-44).

The examiner argues that it would have been obvious to one of ordinary skill in the art to use Mochizuki's waste ink/cleaning fluid consumable in Purcell's ink jet printer to clean the printhead nozzles to maintain print quality (answer,

pages 5-6), and to use Cardullo's transponder on this consumable "since utilizing plural transponders is a natural consequence of the obviousness of utilizing a transponder memory element as taught by Cardullo et al. on either or both of the ink cartridge 77 and print cartridge 74 of Purcell et al. since Purcell et al. already provides one transponder on the print roll" (answer, page 11). As discussed above regarding the rejection of claims 1, 19 and 43, the examiner has not established that it would have been *prima facie* obvious to one of ordinary skill in the art to use Cardullo's transponder on Purcell's ink cartridge. Hence, the examiner's argument that it similarly would have been *prima facie* obvious to one of ordinary skill in the art to use Cardullo's transponder on Mochizuki's waste ink container is not persuasive. We therefore reverse the rejection of independent claims 6 and 50 and dependent claims 11, 12, 14, 15, 17, 18, 29, 30, 32, 33, 35, 36, 49 and 51.

*Claim 54*

Claim 54 requires a receiver sheet consumable comprised of discrete receiver sheets loaded into the printer, and a transponder coupled to a sheet-like member that is part of a stack of the discrete receiver sheets.

Mallory discloses that reproduction or copy machines

normally are provided with either a precut sheet supply or a roll stock supply and a stock cutter for cutting sheets to size from the roll stock (col. 1, lines 6-25).

The examiner argues (answer, pages 6-7):

It would have been obvious to a person of ordinary skill in the art to use a series of discrete receiver sheets with a transponder coupled to one of the sheets as taught by Mallory in place of the print roll used by Purcell et al.

The motivation for doing so would have been in order to eliminate the need for a stock cutter and lower the cost of the printer of Purcell et al. as taught by column 1, lines 14-16 of Mallory.

Mallory, however, does not disclose a transponder coupled to a sheet. Mallory merely discloses precut sheets (col. 1, line 8), and Purcell's disclosed transponder is embedded in an insert attached to an end of a media roll holder (col. 2, lines 11-14; col. 9, lines 11-12). Thus, the applied prior art does not disclose a transponder coupled to a sheet, and the examiner has not explained how the applied prior art itself would have fairly suggested the use of a transponder coupled to a sheet to one of ordinary skill in the art. The record, therefore, indicates that the motivation relied upon by the examiner for using, in place of Purcell's media roll and transponder on the roll holder, a stack of sheets with a transponder being coupled to a sheet, comes from

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the appellants' specification rather than coming from the applied prior art. Hence, the record indicates that the examiner used impermissible hindsight in rejecting claim 54. See *W.L. Gore & Associates v. Garlock, Inc.*, 721 F.2d 1540, 1553, 220 USPQ 303, 312-13 (Fed. Cir. 1983), *cert. denied*, 469 U.S. 851 (1984); *In re Rothermel*, 276 F.2d 393, 396, 125 USPQ 328, 331 (CCPA 1960). Accordingly, we reverse the rejection of that claim.

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*DECISION*

The rejections under 35 U.S.C. § 103 of claims 1-3, 8-10, 13, 16, 19-21, 26-28, 31, 34, 37-48, 52 and 53 over Purcell in view of Cardullo, claims 6, 11, 12, 14, 15, 17, 18, 29, 30, 32, 33, 35, 36 and 49-51 over Purcell in view of Cardullo and Mochizuki, and claim 54 over Purcell in view of Mallory, are reversed.

*REVERSED*

	)	
Lee E. Barrett	)	
Administrative Patent Judge	)	
	)	
	)	
	)	BOARD OF PATENT
Terry J. Owens	)	
Administrative Patent Judge	)	APPEALS AND
	)	
	)	INTERFERENCES
	)	
Joseph F. Ruggiero	)	
Administrative Patent Judge	)	

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